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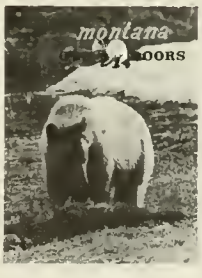
THE COVER



The grizzly bear, *Ursus horribilis*, is a perfect indicator of a wild and quality environment — "as the wilderness goes, so goes the grizzly." The Montana Fish and Game Commission could hardly have chosen a more appropriate symbol to head their battle to promote the wise use of Montana's abundant natural resources.

The cover photo and all other photos found in the story, "The Grizzly: Montana's Pride," were taken by Mike Sample.

The photo of Montana's state flower, the Bitterroot, appearing on the back cover is by Don Aldrich, Montana Wildlife Federation.

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Forrest H. Anderson, Governor

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THE DIRECTOR SPEAKS . . .

Two major fish and wildlife issues, an overhaul of Montana's water pollution law and a revamping of the laws that regulate reclamation on strip-mined land, will come into focus in the 1971 legislative assembly. Both issues which represent causes long championed by wildlife conservation groups have gained widespread support and have good chances for success.

The existing water pollution law has long been a source of frustration for concerned individuals. The proposed amendments to the law were prepared largely under the direction of Lester Rusoff. Les is a professor of Law at the University of Montana and has been active in conservation affairs for many years. He has drafted a major change of the existing law in consultation with a committee representing the Montana Water Resources Board, the Department of Health and the Fish and Game Department. His amendments have since gained the approval of the Governor's Council of Natural Resources and Development.

The bill, if enacted in its present form, will accomplish the following objectives, (1) It will greatly simplify administrative procedures and transfer the administrative authority from the existing Water Pollution Control Council to the State Department of Health. (2) The bill will establish procedures whereby obvious sources of pollution can be halted almost immediately. (3) It removes exceptions for long-standing industrial pollution and for seepage from private ponds into state waters. (4) It adds provisions to assess fines for violation of board orders. (5) It provides fair procedures for appeal.

The problem of strip mine reclamation has been approached from two separate directions. First, the Governor's Council on Natural Resources and Development formed a subcommittee that developed a model coal land reclamation contract. Primary features of the model contract were: (1) requirements for detailed reclamation plans, (2) establishing an advisory committee to assist the Bureau of Mines and Geology and (3) bonding of the operator to insure that reclamation agreed to in the contract was actually carried out. After it was approved by the Governor's Council on Natural Resources and Development, the contract was transmitted to the Bureau of Mines and Geology with the suggestion that it be used in all further negotiations. The 1967 coal land reclamation law specifies that the Montana Bureau of Mines and Geology is responsible for entering into these agreements.

The other area of activity on the coal scene is being conducted in the 1969 Governor's Conference on Mined Land Reclamation and Mining Law. This committee has recommended numerous changes in the 1967 law. Some of the most significant recommendations for amending this act were: (1) large commercial surface mining operations be conducted under a reclamation contract, (2) a recommendation to establish the State Commissioner of Lands and Investments as the administrator of the act, (this recommendation, in effect, places responsibility into the hands of an agency that is apt to be reclamation oriented, rather than mineral development oriented.) (3) a recommendation to provide for the establishment of an advisory review and appeals council to assist and to direct the administrator of the act. Members of this review council include the Department of Health, the Bureau of Mines, the Fish and Game Department, the Department of Planning and Economic Development, the State Forester, the Soil and Water Conservation Districts and the Montana Water Resources Board.

Now the problem will be seeing these two vitally important pieces of environmental legislation through to successful completion. If you are interested in helping, you must become actively involved. If you do not now belong to a conservation or wildlife club, the best thing you can do is join one. Your club will keep you informed on the day-to-day events. If you already belong to an organization and haven't attended, now is the time to become active. If you are already active, then recruit a friend who you suspect also wants Montana to maintain a quality environment. After you're organized, and informed, be certain you make known your feelings. ■

Frank H. Dunkle

Frank H. Dunkle

THE GRIZZLY:

FISH AND GAME PHOTO BY MIKE SAMPLE

MONTANA'S PRIDE

by David Wedum

"These bear being so hard to die reather intimedates us all; I must confess that I do not like the gentlemen and had reather fight two indians than one bear."

It took only two encounters for Captain Meriwether Lewis to form this rather strong opinion about the character of North America's most feared species of wildlife; *Ursus horribilus*, the grizzly bear.

The story of the grizzly bear is an extraordinary heritage of legendary lore, myth and historical melodrama. Revered by primitive American Indians as a paternal ancestor and feared by the white man as though a caricature of the devil, no animal has a more colorful, yet tragic history of contact with *Homo sapiens* than this "beast that walks like man".

An old resident by the time Europeans discovered the New World, it has been fairly well established that grizzlies roamed the North American plains during the Pleistocene period which goes back approximately 1,250,000 years. The evidence of Pleistocene bears on this continent are based upon skeletal remains found over such widely separated locations as California, Oklahoma, Iowa, Mississippi, Maryland, Florida and Wyoming. Extraordinarily large in size, it is estimated that some of these prehistoric grizzlies weighed well over a ton and would have exceeded twelve feet in height when standing on their hind legs.

FISH AND GAME PHOTO BY MIKE SAMPLE

FISH AND GAME PHOTO BY MIKE SAMPLE

INDIAN PROGENITOR

Long before the first Europeans arrived upon the North American continent, the Indian had developed his own theories on the origin of the human race. Animals and birds played a large part in the Indian's beliefs and the grizzly in particular was a widespread and favorite traditional ancestor.

There was much to recommend this mighty bear as a progenitor of the human race. He was the embodiment of all the virile virtues which primitive man aspired to—strength, courage and cold belligerence. The grizzly personified all this and more. "A bear is wiser than a man", an old Abnoki Indian once said, "because a man does not know how to live all winter without eating anything".

A LEGEND OF HISTORY

Believed to be at one time a resident of the United States from coast to coast, by the time the first Europeans arrived on the continent the grizzly was pretty well confined to those areas west of the Mississippi. Just who the first European was to come in contact with the grizzly bear is not known. Undoubtedly, it was some Spanish conquistador of the southwest in the early or mid 1500's.

The earliest known recorded information in the English language about the grizzly comes from the journals of Henry Kelsey, a trapper with the Hudson Bay Company. On August 20, 1691, Kelsey makes reference to "a great sort of bear which is bigger than any white bear and is neither white nor black but silver haired . . .".

Regardless of who was first to meet the grizzly, continued contact only increased the respect, awe and fear which man had for the monarch. Lore of the old west is filled with accounts of the grizzly bear and famous names, such as Jim Bridger, Hugh Glass, Kit Carson and others are all linked with the grizzly and provide a fascinating history of the taming of the old west.

Perhaps one of the strangest bear stories is that of James Capen Adams who had grizzly bears as companions and beasts of burden while plying his trapping trade in the mountains of California. In his later years Adams was forced

to move to town because of ill health and old injuries and it became an unusual, but not uncommon, sight to see him proceeding down the streets of San Francisco with one or more of his three tame grizzlies at his side. Named "Ben Franklin," "Martha Washington" and "Fremont," the three grizzlies had been companions and helpers to "Grizzly" Adams in an amazing series of adventures.

"Grizzly" Adams, hand-to-hand combat, pitting knife against claw; bear and bull fights for which grizzlies were captured by men using ropes and horses; stock-killing grizzlies that outwitted all man's tricks. These stories and many more make up the history of the grizzly in North America.

LIFE HISTORY

When born, a grizzly weighs between one and two pounds, is nearly hairless and does not have its eyes open. This is a rather inconspicuous beginning for the animal which is going to become one of the most fierce and feared animals of the North American continent.

Female grizzlies usually do not become sexually mature until three to four years of age. Midsummer courtship may last a month or more and the one to four young (usually one to two) are born in mid or late winter while the mother is in the midst of her winter sleep. As short yearlings, the cubs will remain with the mother and den with her during the next winter. Although they may remain longer in some instances, standard procedure seems to be for the mother to put the cubs out on their own during the fall of their second year of life when they are between one and one-half to two years of age.

Like other bears, grizzlies have no regular home except perhaps their winter den which may, or may not be used in succeeding years. Traveling throughout their seasonal home ranges, primarily during the night, grizzlies will often scoop out shallow beds in which to retreat and rest during the day. The size of these summer ranges may vary considerably from one bear to another. Studies in Yellowstone Park showed a variance in home range size from a high of 168 square miles to 8 square miles for two different bears during the same summer. The same study indicated that bears may often have two distinct seasonal ranges —an early spring—late fall range and a summer range, and the home range of the male is probably much larger than that of the female.

Omnivorous in diet, grizzlies will eat nearly anything. Berries, fruits, leaves, bark, rodents, lizards, snakes, insects and larvae, stale and fresh meat, fish and nearly anything else they can catch that walks, runs, flies, swims or crawls may make up a portion of the grizzlies food. It is not uncommon to see grizzlies in spring grazing along a hillside much the same as cattle do.

ENDANGERED SPECIES

The only serious predator upon the grizzly is man. This short statement sums the entire predicament of the grizzly bear. No other animal on the North American continent is capable of being a threat to the continuing existence of the grizzly. Man with his guns, traps, poisons, and dogs and the encroachment of civilization upon wilderness areas and national parks has brought the grizzly bear to the virtual edge of extinction over nearly all his former ranges.

Recently the Bureau of Sports Fisheries and Wildlife changed the status of the grizzly from endangered to rare. A rare species or subspecies being one that although not presently threatened with extinction is in such small numbers throughout its range that it may be endangered if its environment worsens.

Montana with its numerous wilderness and primitive areas and Glacier and Yellowstone Parks provides the last remaining stronghold for the grizzly in the contiguous forty-eight states. The grizzly is also found in Wyoming and Idaho, but the populations are felt to be very minimal.

In recent years, heavily publicized attacks by grizzlies upon humans in Glacier and Yellowstone Parks have led to the development of a highly controversial subject. Should national parks be

FISH AND GAME PHOTO BY MIKE SAMPLE

The photographer got a "little too close" for this shot.

managed for people or for bears? Is it feasible, or even desirable to maintain a population of grizzly bears in an area of high human use?

A January 12, 1970 National Park Service Information Bulletin on grizzlies states, "Two fatalities from grizzly in 1907 and 1916 have occurred in Yellowstone over the past 97 years. Two have occurred in Glacier over the past 59 years. Park records show 13 persons (1 per 1 million visitors) have been injured by grizzlies in Glacier over the past 20 years. Yellowstone records indicate that 63 persons (1 per 750,000 visitors) were injured by grizzly bears over the past 40 years. Forty-seven of the 63 injuries in Yellowstone required only first-aid treatment or minor suturing. The remaining 16 required hospitalization for one night or more. Records show hiking encounters with female bears defending young were responsible for the comparatively few back-country injuries that occurred in Yellowstone (three injuries) and Glacier (six injuries). Bears that had learned to frequent campgrounds to obtain food caused most of the remaining injuries."

This would appear to be a fairly good record for the relationship of North America's most feared animal toward the human race. Much better than man's record toward the grizzly. Unfortunately, the report does not show how many of these incidents are the result of man's stupidity or foolhardiness.

Officials of the National Park Service, U. S. Forest Service, state and federal wildlife agencies and cooperative wildlife research units are presently engaged in research needed to improve management of the grizzly and perpetuate the species.

HUNTING THE GRIZZLY

A general open season for grizzlies has prevailed in Montana for the past 25 years. Wyoming has in the past allowed grizzly hunting on a permit basis and inaugurated this type hunt again this spring. Montana, however, is the only state with the exception of Alaska supporting a population of grizzlies large enough to provide open hunting.

Until 1967 grizzlies could be taken by anybody possessing a valid big game license. A new licensing structure became effective that year and provided the first accurate designation of the grizzly bear harvest in Montana. A separate license for the grizzly was initiated which allowed the gathering of more detailed management information than could be obtained previously. In addition, the Montana Fish and Game Commission was given the authority by the legislature to manage the grizzly as the rare species which it is. The commission passed regulations requiring that successful grizzly hunters submit the hides and heads of their trophies for tagging. Information such as sex, age, location, date of kill, circumstances of the kill, size of bear, numbers killed in the state could thus be gathered. Hunters are also now required to submit the skull of the bear to the department for study at the Montana Wildlife Laboratory in Bozeman. The skulls are cleaned at the lab and then examined to make certain of the species and to determine age and other information. Skulls are then returned to the hunter.

FISH AND GAME PHOTO BY MIKE SAMPLE

AS WILDERNESS GOES— SO GOES THE GRIZZLY . . .

Four hundred years of occupation and use have changed a large part of the United States from a primitive wilderness to a despoiled and devastated landscape of cutover and burned-over forests, eroded agricultural lands and polluted streams and lakes.

At the same time the grizzly bear has been subjected to some of the most disrespected and intensive attrition ever dished out by man upon any species of wildlife.

Once abundant throughout the American west, the grizzly is today close to total extermination throughout most of its original range. Remnant populations of the grizzly exist now only in the remnant areas of wilderness which the North American public still possesses. It is only through the continued existence and careful management of these areas and applied scientific management of the grizzly that we will continue to have this most magnificent species of American wildlife. "Old Ephraim, the beast that walks like man." ■

WINTERKILL

by Otis Robbins

Fish need water. This can easily go without saying. However, the presence of water doesn't mean there will be fish or, even further, good fishing.

Every body of water has its own chemical personality. Water, a rather unburdened-looking liquid, can, in reality, contain hundreds of different chemicals. Nitrates, phosphates, sulfates and carbonates are only a few of the major chemical compounds that are dissolved in water.

Variation can be tremendous. The complexity, number and intensity of these chemicals will vary with each particular body of water. Of course, the effect on the fish population will deviate accordingly.

It is dangerous to generalize, but in general, the richer the chemical content of a stream or lake, the richer the fishing opportunity. For example, the Madison River has more dissolved chemicals per gallon than the Flathead River.

The most essential dissolved chemical, at least as far as fish are concerned, is, without a doubt, oxygen. Fish, like all other animals, must have a constant supply of oxygen to survive.

During winter months (usually February or March) a lake's supply of life-supporting oxygen can become very limited. This results in a reduction or sometimes the eradication of a fish population that could easily prosper in summer, or more simply stated — **WINTERKILL.**

Unfortunately, water can only hold a small quantity of oxygen. At a maximum, one million parts of water can contain only 15 parts of oxygen. The amount actually present can vary with water temperature and altitude. In general, colder water temperatures and higher elevations make for a higher oxygen content.

Oxygen absorbed into water comes from two main sources—the atmosphere and aquatic plants. Atmospheric oxygen transfers to water directly from the air through agitation and wind action. Agitation in riffles and rapids quickly supplies oxygen to any stream. Aeration by wind action results in the absorption of some oxygen in lakes. However, this is not the main source of oxygen in lakes.

Most lakes maintain an oxygen supply by absorbing the by-product of nature's most efficient food-producing process, photosynthesis. This by-product is most conveniently oxygen.

Sunlight is the basic energy source for green plants. It is the critical ingredient that allows chlorophyll-containing plants to take in carbon dioxide (CO_2) from the water, use sunlight as an energy source to produce simple sugars (plant food) and release oxygen as a waste product.

Aquatic plants can produce an extremely large amount of oxygen, but the life-giving element is usually removed as fast as it can be dissolved. Except in extreme situations such as a long severe winter, the amount of oxygen in a given body of water keeps the happy balance between absorption and removal.

Three different factors act together or separately to remove oxygen from the water. Listing from most to least important, the three include the utilization by microorganisms in decaying plant and animal matter, by aquatic animals such as fish and by certain plants.

Lakes that are rich in chemical nutrients have very abundant plant life. The same lakes also have a large, decaying mass which is slowly decomposed by bacteria and other microorganisms. During this decomposition, these microorganisms require a tremendous amount of oxygen, and in turn, put a heavy demand on the lake's oxygen supply.

In deep lakes with a large volume of water, the oxygen supply is usually substantial enough to withstand the drain brought about by nature's decomposition process. On the other hand, shallow lakes which produce more plant life and have the greatest amount of dead plant material to decay often fall below the level of oxygen needed to sustain life. In shorter terms, shallow lakes winterkill much more frequently than deep lakes.

Man with his technology has greatly increased the probability of a winterkill in many instances and especially in shallow lakes found in agricultural areas. Landowners often allow rich topsoil, fertilizers and other organic debris to erode and wash into lakes. This process increases the fertility of the lake, improves plant growth, builds up the decaying mass of vegetation and in the end, reduces the lake's oxygen supply.

Since sunlight is the basis for photosynthesis, a lake's supply of oxygen can be depleted at night, during dark days and when the lake is covered with ice and snow. As little as two inches of snow will decrease the amount of sunlight penetration below the level needed for optimum

plant growth. When the snow gets so deep that no light can penetrate, plants begin to die, adding more decaying matter and further demands on the oxygen supply.

When this situation presents itself, the volume of the lake becomes crucial to fish survival. When the sunlight is blocked from aquatic plants, the supply of oxygen that is already in the water must last until the spring thaw. A small volume of water means a limited oxygen supply which in most cases means a winterkill.

To withstand a normal winter, a Montana lake should be somewhere between 15 to 20 feet deep over at least one-half of its area. This volume will allow the lake to cope with the withdrawal of oxygen and allow the fish population to survive the winter.

Even though fish require less oxygen in winter months due to decreased activity, a fish kill will result if the oxygen content drops below a certain point. If the shortage is severe, the entire fish population can be wiped out. However, in most cases only part of the population dies.

This ranks as the most undesirable feature of winterkill. Trout and most other desirable game fish are always the first to go, and even worse, they are often the only ones to die. Fish such as suckers, bullheads and carp will often survive after the game fish have died. These fish can survive on a lower oxygen content and in greater numbers than game fish. When the spring sun finally melts the ice, what was once a fine fishing lake is now a rough fish paradise.

Needless to say, fish managers would rather have a complete kill than a lake filled with rough fish. Sometimes a fish toxicant will be introduced to complete the winterkill after it is known that the game fish population is gone.

Even though a lake winterkills annually, it is still possible, in certain instances, to maintain a fishing opportunity. This can be accomplished by planting catchable-size fish each spring. Few lakes can justify the use of this management technique because of the high cost of raising fish to a catchable size and the poor return-to-creel ratio. The fish that don't show up in the fisherman's creel will not last the winter and will have to be written off as wasted time, effort and dollars.

What can be done to prevent winterkill? Several preventive projects have been tried in the past with no real success. The oldest and probably the most ineffective method would be chopping holes in the ice. Even if these openings are maintained regularly, oxygen is replenished into the surrounding waters at a ridiculously slow rate.

The spreading of coal dust to melt the snow has been used off and on for forty or more years. This method can be rather effective, but only on small ponds. The actual size, distribution methods and weather conditions usually prohibit its use on large lakes.

When air compressors that introduced atmospheric oxygen into the lake water were first brought into the scene, many people thought winterkill problems would be over. However, as things turned out, this was not the case.

Other states have proven that air compressors are, at the least, very ineffective in preventing winterkill. In fact, some states (Michigan in particular) have stated that there is some evidence that compressors might increase the chance of winterkill instead of preventing it.

FISH AND GAME PHOTO BY MIKE SAMPLE

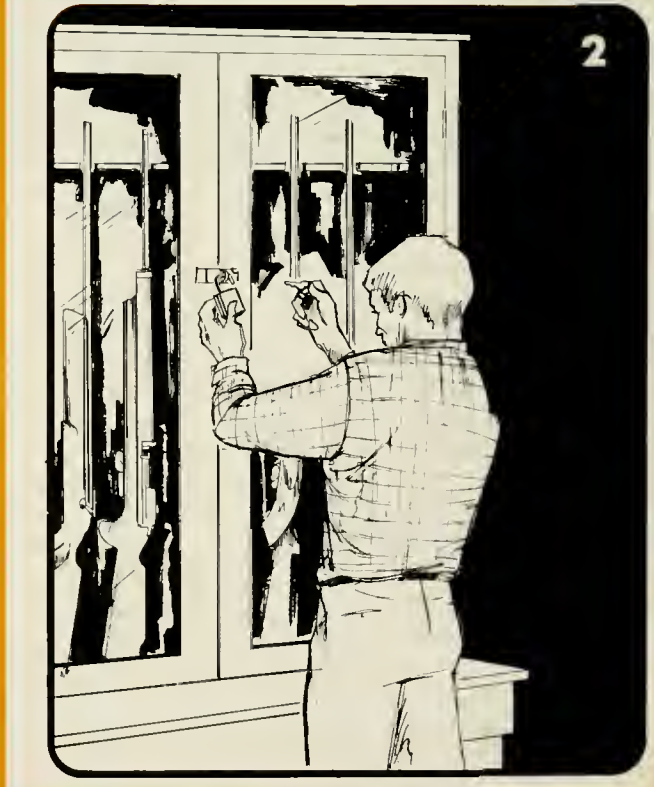
Probably the method with the most merit for preventing winterkill is the actual plowing of the snow from the lake or melting the snow by pumping water on the ice. However, the economics of this method prevents its use on most lakes.

Some ponds and lakes in Montana will winterkill almost every year while others can withstand even the longest, most severe winters. Since the majority of Montana's lakes are fairly deep, winterkill is not a serious problem in this state, at least when compared with other fishery management problems. However, northern states with most of their lakes consisting of the lowland, shallow water type will rank winterkill as their most serious fish management problem. ■

Are YOU a safe hunter?

Mark each number on the next page either "Safe" or "Unsafe" or "Shoot" or "Don't Shoot" according to the correspondingly numbered picture. When you have finished, check your answers by the explanations on Page 15. If you miss three or more, perhaps you should contact your local hunter safety instructor and arrange to take the course.

(Artwork—National Rifle Association)



TEST YOURSELF

1.	☐ Safe	☐ Unsafe		10.	☐ Safe	☐ Unsafe	
2.	☐ Safe	☐ Unsafe		11.	☐ Safe	☐ Unsafe	
3.	☐ Safe	☐ Unsafe		12.	☐ Shoot	☐ Don't Shoot	
4.	☐ Safe	☐ Unsafe		13.	☐ Safe	☐ Unsafe	
5.	☐ Safe	☐ Unsafe		14.	☐ Shoot	☐ Don't Shoot	
6.	☐ Shoot	☐ Don't Shoot		15.	☐ Shoot	☐ Don't Shoot	
7.	☐ Shoot	☐ Don't Shoot		16.	☐ Shoot	☐ Don't Shoot	
8.	☐ Shoot	☐ Don't Shoot		17.	☐ Safe	☐ Unsafe	
9.	☐ Safe	☐ Unsafe					

5

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10

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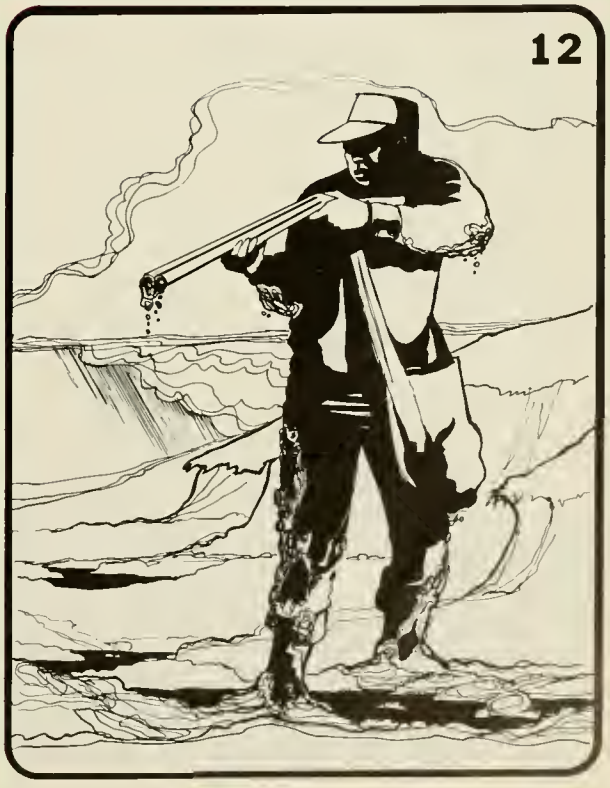
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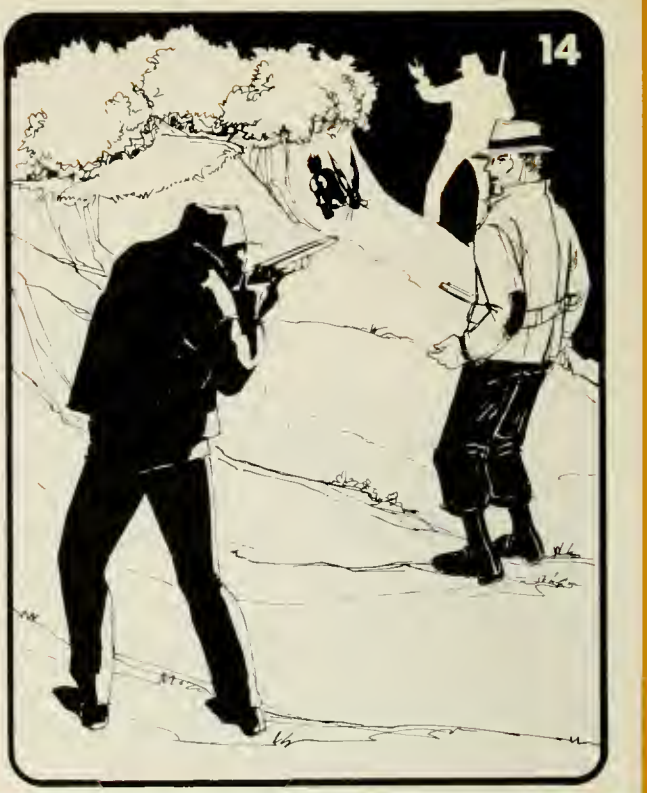
13


14

16

17

ANSWERS

1. Unsafe — Any type of "horseplay" with firearms is always dangerous.

2. Safe — When storing guns in the home they should be separated from ammunition and preferably in a locked cabinet.

3. Unsafe — Smoking may be hazardous to your health, especially if done while handloading. Great care must be taken with handloading to be sure the correct type of powder in the right amount is used. Remember one mistake here can be fatal.

4. Safe — When cleaning your gun be sure that the ammunition is put away and dispose of used cleaning patches and oil soaked cloths in a safe place as these can be fire hazards.

5. Unsafe — When placing a firearm in or removing it from a vehicle, the muzzle should be pointed in a safe direction.

6. Don't shoot — Shooting at a floating object might be fun, but it's also very dangerous. Bullets striking the water can ricochet. Always be sure of your target and beyond.

7. Don't shoot — Never point your rifle at anything until it has been positively identified as game. The scope on your rifle should never be used in place of binoculars for identification purposes. In this picture game is not visible and the hunter is aiming at movement in the brush.

8. Don't shoot — It is not only unsafe but also illegal to shoot across the highway. Always be aware of your surroundings when hunting.

9. Unsafe — Always carry a firearm in such a way that should you stumble or slip the muzzle would be pointing in a safe direction. If conditions are such that you are likely to slip or fall, your gun should be unloaded.

10. Safe — Knowing that the footing here is somewhat precarious, this hunter has unloaded his gun.

11. Safe — When taking a break in the field for rest or lunch, guns should be unloaded, as they are here. Please note that the actions are open on both guns.

12. Don't shoot — If you should happen to slip or fall and get snow, dirt, or mud in the barrel of your firearm, do not fire the gun until it has been cleaned. Since this could happen to anyone, it is always wise to carry a cleaning rod or at least a piece of string and a cleaning patch with you when you go hunting.

13. Unsafe — Both hunters in this picture are wrong. One is displaying a white handkerchief which could be easily mistaken for a white-tailed deer. It is best not to display any white clothing or accessories while hunting. The other hunter, of course, should be sure of his target before aiming.

14. Don't shoot — When hunting with others always agree upon an area of fire before entering the field. Many accidents are caused by "shooter swinging on game" or by "victim in line of fire."

15. Don't shoot — Be sure of your backstop. Ricochets are unpredictable.

16. Don't shoot — Standing up in a boat is unsafe at any time. Firing a gun while standing makes it even more unsafe. The hunters are heavily clothed and are not wearing life preservers.

17. Safe — Here the hunter is holding his gun in a convenient and safe position as he removes the safety. The dog is on point and the hunter is holding his gun in such a way to avoid any chance of hitting his dog.

The Beartooth Game Range:

A PUBLIC PARADISE

The mountains appear to open like gates, and passing through, a wide valley is revealed. Hills ripple up into ridges, topping out as spectacular sheer peaks. Evergreens spear down gullies, giving way to gentle meadow grasses. Wild flowers rainbow the panorama. White dots cautiously move on dizzying spires, and bald eagles spiral lazily. Deer browse weeds on low ledges, and in a canyon basin, a bull elk holds his antlers high. Bighorn sheep graze across a lush mountain meadow. A hiker unslings his pack and ponders which picture to take first. Far below scurrying boats leave white tails, and here and there wisps of smoke float up from picnickers' campfires. All around, rugged peaks serrate the horizon.

Where can all this mix with several thousand boaters, water skiers, campers, sightseers, fishermen, hunters, picnickers, bird watchers and photographers and still have it work to the mutual advantage of all concerned? — The Beartooth Game Range, Montana's newest public-owned winter game range.

Bought June 8, 1970 by the Montana Fish and Game Commission, the Beartooth promises to be one of the most exciting recreational areas in the United States. A place where large wildlife popu-

FISH AND GAME PHOTO BY TOM WARREN

by Bob Carroll

lations, large numbers of people and sound conservation principles will mesh smoothly and productively.

Hunting license dollars were matched one-Montana for three-federal guns and ammo excise tax dollars to make up the $782,000 bargain tab for the 27,000 acre Beartooth. Buying primarily an elk winter range, Montana's hunters have bestowed, as a fringe benefit, a fantastic recreational area on the rest of the state.

Location and terrain make the Beartooth unique. The Beartooth's 27,000 acres of rolling meadows and ridges adjoin the 28,000 acre Gates of the Mountains Wild Area. The Beartooth will produce the life-sustaining winter foods for big game, keys to increased elk, bighorn sheep and deer populations. On department recommendation, the commission set a 1970 bulls-only elk season for the Beartooth. This represents the first step toward building the elk population compatible with the amount of winter food the Beartooth can grow year after year.

The most efficient and effective management techniques known will be used to balance elk, bighorns and deer on this 42 square mile natural paradise. Mountain goats patrol a lofty niche where right now carefully regulated hunting meets all management needs. Future hunting regulations for the Beartooth area will be planned to provide the correct harvests for each game species. Hunters can expect increasing opportunities until the capacity of the Beartooth is achieved and a sustained level from then on.

Sportsmen having purchased the Beartooth will continue to make annual payments to the county in-lieu-of-taxes. Each year all public game ranges are assessed and the counties in which they are located receive identical payments-in-lieu-of-taxes to what a private landowner would pay in taxes. The Fish and Game Department is the only state agency that, in effect, "pays taxes" on the lands it owns. Winter game ranges provide an immediate productive use for hunting license dollars.

Now that you, the public, have it, how do you get there? Access to the Beartooth depends on the weather and how you like to travel. Twelve-and-a-half miles of shoreline on Holter Lake line the western boundary. During mild months access by boat is easy from Holter Dam or Gates of the Mountains. Hikers can reach anyplace their feet will propel them. A road from Holter Dam goes

FISH AND GAME PHOTO BY ROBERT ROTHWELLER

The elk population in the Beartooth area should increase substantially after the vital winter range has been restored from extensive livestock use.

FISH AND GAME PHOTO BY BOB CARROLL

If the 28,000 acre Gates of the Mountains Wilderness (left) is added to the Beartooth Game Range, the result is a 55,000 acre chunk of rich outdoor opportunity.

Holter Reservoir (below), which forms most of the western boundary, offers access and water-based recreation as extra benefits.

FISH AND GAME PHOTO BY BOB CARROLL

through the Beartooth, with a couple of side roads that peter out in the mountains.

In 1971, road construction and shoreline development will start. Some shoreline developments with basic facilities (fireplaces, water, tables and toilets) will be accessible by boat only. These sites will be where road costs would be prohibitive or where a road would detract from the natural setting. The water-oriented developments will make use of federal money through matching dollar programs whenever possible. Basically, spring, summer and fall access to the Beartooth is easy, but in winter, it's tough.

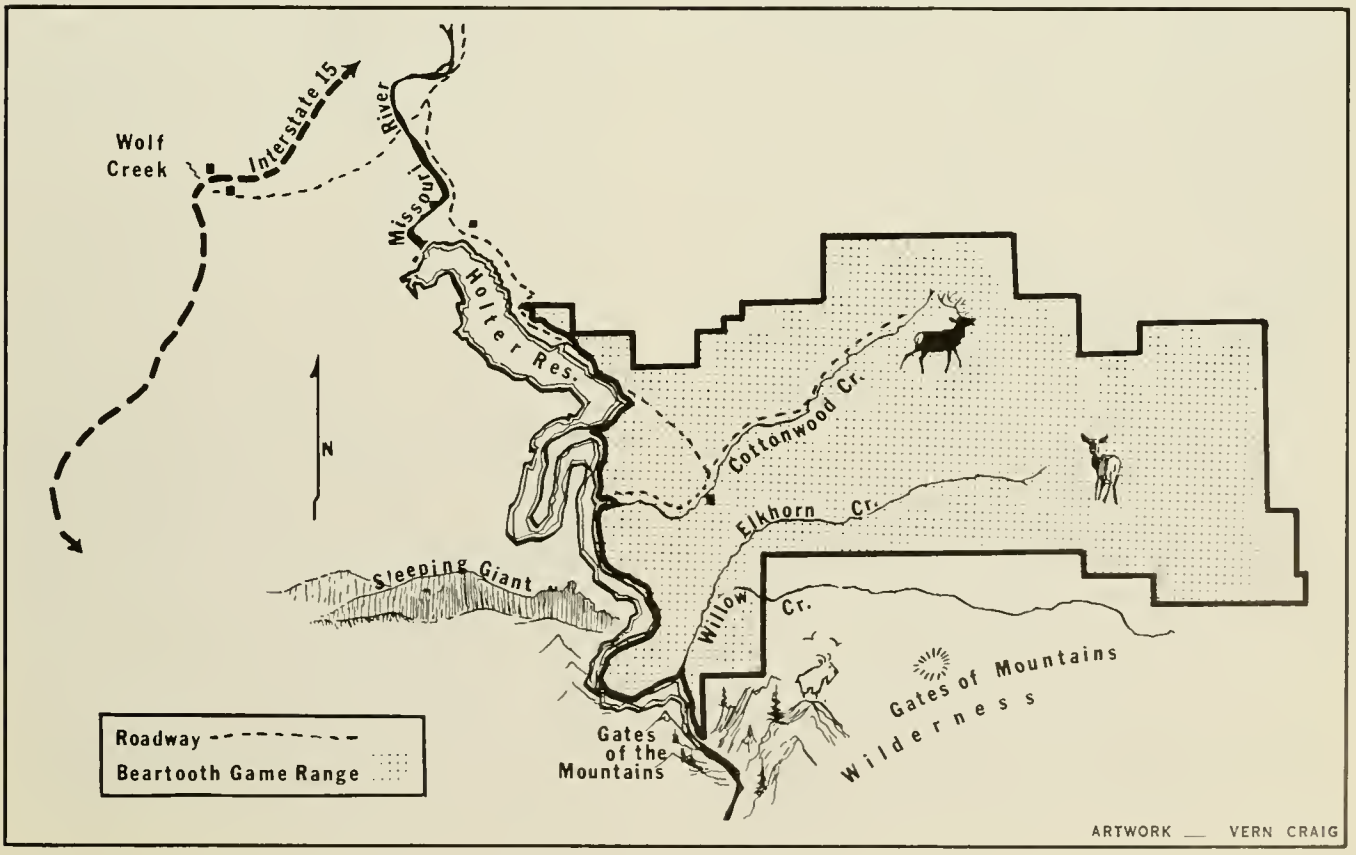
In late spring the elk, deer and sheep will be roaming the high country above the Beartooth, calving, fawning and lambing. During summer and early fall they'll be loafing and eating, laying on their winter fat. On early mornings and late evenings, some will be seen in shady places along the lake. Routinely, goats can be seen on their high citadels, and black bear will be observed poking into this and that. With rare luck, a tawny lion may be glimpsed slipping along the rocks.

During the mild months, animals disperse throughout the high country, and at the same time, recreationists will be out in force along the shores of the Beartooth. As late fall and winter freezes out water recreation, big game animals drift back onto the winter range. When winter hits in earnest and the business of wildlife survival gets down to the nitty-gritty, they'll have the Beartooth to themselves.

The Beartooth is ideally located for the seasons to shift the major use from animals to people and back again, automatically filling the needs of each as the need is greatest. Its 42 square-miles-plus provides a lot of elbow room. The spring influx of recreationists will encourage the bulk of the animals to move into high country, allowing the grasses, browse and weeds of the game range to grow unhindered for winter when the game concentrations urgently need them. The natural regulation of access by the weather is what makes the Beartooth so compatible for both people and wildlife.

The existing housing facilities on the Beartooth will be used for youth education activities. Teacher workshops, class field trips, special studies and other educational needs in ecological wildlife fields will be especially relevant held on the Beartooth. The Fish and Game thus continues to work closely with all Montana educational institutions, as they have in the past.

The potential of the Beartooth is tremendous. It will be scientifically managed to retain its naturalness and produce the maximum opportunities for wildlife and recreation. No finer public investment for now or the future could be found than the 27,000 acres of the magnificent Beartooth, truly a public paradise. ■



"The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people."

(10th Amendment—United States Constitution)

by Craig Whitney

"Inasmuch as this is a federal project carried out on federal lands, we do not consider it necessary that our men have collecting permits issued by your department."

Thus was the opening salvo fired on a long festering problem of federal and state jurisdiction of wildlife on federal lands. The scene was the Carlsbad Caverns National Park in New Mexico in October 1967. Park personnel had activated a research program to collect 50 deer for food habits and other biological information. The New Mexico Game and Fish Department was pleased with the study, but informed Park Superintendent Neal Guse that a state collector's permit was needed along with provisions to dispose of the carcasses. Thus the above reply by Superintendent Guse.

The State's Right to Mar

To properly appreciate the problem, the story must go back a few years and start at the beginning—like to Runnymede, England on June 15, 1215. Here the English barons forced King John to sign the Magna Carta, which marked the beginning of democracy in England. Among its 63 articles, the Magna Carta transferred the ownership of wild game from the exclusive ownership of the sovereign to the people.

American colonists starting in the New World went one step further. They broke with the European concept that wildlife was exclusive to the landowner. Ownership of wildlife was hereafter vested in all the people and in their sovereign capacities as states. It thus followed that the states had the basic responsibilities to manage the state-owned fish and game resources.

Fish and game species which moved across state or international boundaries presented a problem. However, when the Federal Government entered the picture, in regard to these particular species, the final boundaries were drawn. The states were restricted to exclusive jurisdiction of resident wildlife species, such as elk and deer as opposed to waterfowl. Thus the reason Montana sportsmen buy a state license to hunt deer and pheasant, but must purchase a federal waterfowl stamp to hunt ducks and geese.

With few exceptions, federal and state agencies met their respective responsibilities with a minimum of friction. In 1956, however, Congress passed the Fish and Wildlife Act which established the United States Fish and Wildlife Service within the Department of the Interior.

With the exception of fisheries, the Fish and Wildlife Act contained no reference to the states regulatory powers over wildlife. Thus the groundwork was inadvertently laid for Federal invasion of the state's historic right to manage and regulate resident wildlife within their boundaries.

The stage was further set by the act, which provided that the Secretary of the Interior:

> "(5) take such steps as may be required for the development, management, advancement, conservation and protection of wildlife resources through research, *acquisition of refuge lands*, development of existing facilities, *and other means*." (Emphasis supplied)

The acquisition of refuge lands by the Secretary of the Interior served to localize the problem. The concept of refuge lands differed from other Federal lands in that they were acquired solely and exclusively for wildlife and its management. Additionally, the states did not cede jurisdiction of the resident as was the case for national parks (e.g. Yellowstone National Park.) The Secretary of the Interior was broadly empowered to control and manage the wildlife on these lands.

One more Congressional act must be cited to fully appreciate the extent that Congress opened the door to Federal intervention. The Endangered Species Act of 1966 protected certain vanishing species of wildlife in the United States. In addition to the conservation and management authorizations, the act contained this provision:

"The regulations permitting hunting and fishing of resident fish and wildlife with the system (National Wildlife Refuge System) shall be, to the extent practicable, consistent with state fish and wildlife laws and regulations. The provisions of this act shall not be contrived as affecting the authority, jurisdiction, or responsibility of the several states to manage, control or regulate fish and resident wildlife under state law or regulations in any area within the system." (Emphasis supplied.)

Rather than a restatement of the state's jurisdiction, this section points out the fact that the Secretary of the Interior was to regulate hunting and fishing within the refuge system so long as said regulations were "consistent with state fish and wildlife laws and regulations." It must be emphasized here that it was the rules and regulations of the Secretary that were to be enforced by Department of Interior personnel rather than state laws by state officers.

ge Resident Wildlife

THE REACTION

Was it possible that the states were overreacting to Federal programs which were actually designed to enhance state wildlife resources? Could federal assumption of wildlife management refuge on lands only, be so threatening to the states historic rights?

In nine of the western states (including Montana), the Federal government is the major landowner. Of these nine states, federal agencies control approximately 70 percent of the total land acreage; whereas the states own 1 per cent. The balance remains in private ownership. In addition, some of the finest hunting and fishing and other outdoor recreational opportunities occur on these same federal lands. The annual revenue of hunting and fishing licenses to these same nine states amounts to over 36 million dollars. **State wildlife management programs are critically dependent on this income and any interference would be disasterous.**

While total acreage (by comparison) for the Fish and Wildlife Service refuge lands is small, the department has extensive holdings through the Bureau of Land Management. It is only a short jump between the two agencies. Not too much farther are the vast U. S. Forest Service holdings within the Department of Agriculture. The potential for the federal agencies to invade the state's perogative in wildlife management is alarming.

The Federal Government is a landowner even in the same sense as private individuals. The main difference lies in the enforcement or police powers of government. **The question then arises that if the Federal Government could set fish and resident wildlife regulations on its own lands, could not the private landowner assume the same prerogative?** The result would be the complete erosion of public ownership held in trust by the states.

For these and other reasons, state fish and game agencies became concerned. The matter was formally taken up within the International Association of Game, Fish and Conservation Commissioners in September 1964 during its 54th convention.

An Ad Hoc Committee of the "International" consisting of State Fish and Game Directors Frank Dunkle (Montana), P. W. Schneider (Oregon) and Chairman Frank W. Groves (Nevada) were determined to meet with Department of the Interior personnel, specifically the U. S. Fish and Wildlife Service. Among the eight subject matters discussed only one proved to be a stumbling block.

"It is recommended that the Fish and Wildlife Service refrain from assuming the authority to fix regulations controlling the taking of fish and resident game species on lands the service has acquired, as such functions belongs solely to the states."

From this resolution by the "International", the federal representatives shied. The matter was deferred for study and opinion by the Interior's Solicitor's office. In December, 1964 that opinion was released. The meaning and implications were clear. **The solicitor held that the Federal Government had full and exclusive power and control over both migratory and resident wildlife on all federally owned lands.**

"The Congress shall have the power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States. (Emphasis supplied.)

THE OUTCOME

The cat was now out of the bag and each side temporarily retired in preparation for the battle to come. The International Association of Game, Fish and Conservation Commissioners decided to exploit the possibilities of establishing a solution by further talks with the Department of the Interior. In March of 1967, however, Secretary Udall again stated the federal case that "The Federal Government has the right to control, regulate and manage the wildlife resources on federal land acquired or reserved for federal purposes."

Then in October, 1967, the Carlsbad Caverns National Park incident took place and the battle flared. In the succeeding two years the issue, in one form or another, was tested in federal courts. The "International" directly and indirectly prepared or sponsored federal legislation designed to insure the state's power. The Department of Interior contested any such legislation in numerous statements and with the backing of some national conservation organizations such as the Sierra Club, National Audubon Society and Izaak Walton League.

It became more and more evident that the issue stood a better chance of being resolved through negotiations than by legislation.

Under the new Interior's Secretary, Walter Hickel, joint committees of the "International" and the Interior Department hammered out a statement of agreement and cooperation, which the Secretary signed on July, 1970, and duly entered in the Federal Register. The agreement read:

"The Secretary of the Interior recognizes that fish and wildlife must be maintained for their aesthetic, scientific, recreation, and economic importance to the people of the United States, and that, because fish and wildlife populations are totally dependent upon their habitat, the several states and the Federal Government must work in harmony for the common objective of developing and utilizing these resources. It is the policy of the Secretary of the Interior further to strengthen and support, to the maximum extent possible, the missions of the states and the Department of the Interior in the attainment of this objective.

The effective husbandry of such resources requires the cooperation of state and federal government because (a) **the several states have the authority to control and regulate the capturing, taking and possession of fish and resident wildlife by the public within state boundaries;** (b) the Congress through the Secretary of the Interior has authorized and directed to various Interior agencies certain responsibilities for the conservation and development of fish and wildlife resources and their habitat." (Emphasis supplied.)

It would appear that the confrontation has been resolved, perhaps in the best manner possible. But the door still remains ajar for those who push. As with so many other things, it is not so much the agreements and laws that matter, but the men who apply them. ■

THE CatchALL

TEN POINTS TO GO

Central Flyway duck hunters are boning up on their waterfowl identification this year. Since the Fish and Game Commission approved a new 100-point daily bag limit in the Central Flyway, scattergunners have to know their birds or risk a violation.

This system puts a specific point value on each species and sex. The hunter has to add the point values as he takes his ducks and when he reaches or exceeds 100 points his daily bag is filled. Depending on the species and sex taken, a hunter can shoot anywhere from two to ten ducks each day. The possession limit equals the minimum number of ducks of a certain species and sex which can be legally taken in two days of hunting.

90 points
- hen mallard
- canvasback
- redhead
- wood duck
- black duck
- hooded merganser
- New Mexican duck

20 points
- male mallard
- hen pintail
- ring-necked duck
- mottled duck

10 points
- teal (all species)
- gadwall
- male pintail
- scaup
- baldpate
- shoveller
- goldeneye
- all other species and sex

For example, if a hunter bags a mallard drake as his first prize and gets a redhead with his next shot, he has to unload and head for home. However, if he takes four mallard drakes and one baldpate, he still can legally shoot a redhead on his last shot even though the total reaches 180 points. ■

A Slim Chance . . .

A newborn cottontail has one chance in twenty of reaching its first birthday. It's a good thing there are lots of newborn cottontails. ■

Common Bird

The Western Meadowlark must be a popular songbird. Its unique song and nervous personality earned it the title of "state bird" in Montana and five other states. The other states choosing this bird as their symbol include Wyoming, North Dakota, Nebraska, Oregon and Kansas. ■

A NEW LOOK

The Montana Fish and Game Department is taking a "new look" at conservation.

This "new look" takes the form of a full-color magazine that will be coming your way six times each year. We combined both of our publications to form one—a "new" MONTANA OUTDOORS.

In past years, Montana Wildlife was published on a quarterly basis and the previous Montana Outdoors each month. Publication of both will cease with the formation of MONTANA OUTDOORS as the official publication of the Montana Fish and Game Department.

MONTANA OUTDOORS will be a "free" public service until July 1, 1971. At that time it will go on a paid subscription basis.

Even though our official publication is now a little fancier, its basic policies and themes remain the same. The Montana Fish and Game Department is obligated, morally and by law, to fight for the wise use of Montana's abundant natural resources. Through material published in this magazine, we hope to further fulfill our obligation.

With this, our first issue, it would seem proper to repeat the primary theme of MONTANA OUTDOORS and of the entire Fish and Game Department—A LIVABLE ENVIRONMENT FOR WILDLIFE IS A QUALITY ENVIRONMENT FOR MAN.

We want your opinions on our efforts to conserve a quality environment. Send your letters, criticisms, ideas, suggestions or whatever to MONTANA OUTDOORS, Montana Fish and Game Department, Helena, Montana 59601.

—BILL SCHNEIDER

on relationships...

With the ever-increasing demand on Montana's outdoor resources, the sportsman and the private landowner must learn to work and play in harmony. More leisure time and rapid means of travel have brought many Montana residents and out-of-state visitors out of their homes and into all forms of outdoor recreation.

Montana has a total area of approximately 93 million acres. Listed in their order of importance, the four major landowners in Montana are the private landowner, the Bureau of Land Management, the U. S. Forest Service and the state of Montana. Private landowners hold about 56 million of the total 93 million acres. Most of this private land is located in the most accessible areas, making it very vital to the outdoor recreationist. Unfortunately, much of this land is closed to the public as witnessed by the numerous restrictive signs seen along roadsides.

Of this 56 million acres, no one knows the amount available to the general public, and an estimate would indeed be difficult with the changing of property ownership and the subsequent opening and closing of private lands being common occurrences. The amount of private land available to the public for all types of outdoor recreation has and will continue to be one of the major concerns of the Montana Fish and Game Commission.

Through the years many problems have arisen between sportsmen and private landowners. The Fish and Game Department has a continuous program called the 3-C's which is aimed at informing the public, both landowner and sportsman, of these problems and their solutions.

The 3-C's stand for courtesy, consideration and common sense. All sportsmen must realize that the usage of private land can only be supplied by the landowner. If the same sportsmen treat the land with the same courtesy, consideration and common sense that influenced the landowner to grant his permission to use it, most problems will immediately be solved.

By allowing recreational use of his land, the landowner is providing a great public service to the people and the economy of the state of Montana. If the sportsman honors this service by the practical application of the 3-C's, bad landowner-sportsman relationships could become a thing of the past. ■

—VINCENT YANNONE

Test Your 3-C's

		Yes	No
1.	Do you ask permission to hunt on private lands?	☐	☐
2.	Do you pick up all trash and litter?	☐	☐
3.	Do you leave all gates and fences as you find them?	☐	☐
4.	Do you keep your motorized vehicles on the roads?	☐	☐
5.	Do you completely extinguish all fires?	☐	☐
6.	Do you check for stock at large?	☐	☐
7.	Do you clearly identify the animal you are shooting?	☐	☐
8.	Would you notify the landowner if you accidentally killed some of his stock?	☐	☐
9.	If you are lucky enough to bag a big game animal would you dispose of the entrails in a place where it will not be objectionable to the landowner?	☐	☐
10.	Do you thank the landowner for the privilege of using his land?	☐	☐

If you answered "no" to even one of these questions, you have lots of room for improvement. Any negative answer to the above questions violates the guidelines laid down by the 3-C's of good landowner-sportsman relationships, courtesy, consideration and common sense. ■

discover montana state parks

by Ashley Roberts and Vernon Craig

"There's no place like home," is a familiar refrain of Montanans. Most of us enjoy traveling and visiting elsewhere, but "we wouldn't like to live there."

Little wonder that the Treasure State is so appealing, especially to outdoorsmen. We still have lots of elbow room, some 147,000 square miles, for less than 700,000 residents to rattle around in. Montana's geography and climate team to provide a beautiful variety of scenery ranging from arid, grotesquely eroded badlands to lush mountain forests. A multitude of outdoor recreation possibilities include unexcelled fishing, camping, hiking, hunting, river floating, water sports, and sightseeing. The Treasure State might more aptly be termed the Pleasure State.

A recent survey shows what things Montanans like most to do out-of-doors and predicts what outdoor recreation they will prefer through the year 1985. The five most popular forms of outdoor recreation are swimming, picnicking, fishing, boating and camping. Many of the prime sites for these activities are in the Montana State Parks System which includes 43 park units totaling 19,000 acres. An additional 5,200 acres are included in over 100 fishing access sites that provide access to outstanding fishing and boating waters as well as pleasant picnic and camping sites. Still many more miles of the state's best rivers are included in the Recreational Waterway System.

From the plains and badlands of eastern Montana to snowcapped peaks and tall timber of the west a variety of outdoor recreation is offered. A brief sketch of these opportunities follows.

ASHLEY LAKE RECREATION AREA

Ashley Lake Recreation Area sets on a heavily wooded site sloping to the shore of a small but attractive lake. The setting is typical for this low, timbered section of Montana.

BANNACK STATE MONUMENT

In its old age, the sleepy, peaceful ghost town of Bannack belies the brawling, reckless settlement that it was in its youth. In late July, 1862 a big gold strike was made on Grasshopper Creek, tributary to the Beaverhead River. A jumble of wickiups and tents that housed prospectors with gold fever was named Bannack after an Indian tribe that inhabited the area. The shoddy dwellings soon gave way to log cabins, many with false fronts, as gold from diggings filled pokes of prospectors.

Like most gold rush towns, Bannack had its share of the lawless who found it easier to take gold from the pockets of a dead man than to wash it from the rich gravel. Much of the lawlessness came to an abrupt and grisly ending as vigilantes dispensed justice on favored hanging trees.

Bannack became the first territorial capital of Montana, but in 1865 nearby Virginia City became the new capital. Recently, this site has been honored in the National Registrar of Historic sites.

FISH AND GAME PHOTO BY DICK ELLIS

The Smith River Recreational Waterway

BEAVERTAIL HILL RECREATION AREA

Beavertail Hill Recreation Area comprises a level, mixed woodlands area on the shores of the Clark Fork River.

The Clark Fork River between Warm Springs and Missoula offers excellent trout fishing. Float trips by canoe, rubber boats, and kayak are becoming popular on this river.

Visitor facilities are presently under development at this site.

CANYON FERRY RECREATION AREA

Canyon Ferry Recreation Area is composed of 13 individual recreational units. The reservoir is on the main stem of the Missouri River. It varies from one to four miles wide and is approximately 25 miles long.

Most of the eastern shoreline borders gently sloping grasslands. The western shore, however, is rocky, steep and timbered in many areas.

This outstanding area offers trout fishing as well as water sports. Hiking is enjoyed in nearby mountains which once bustled with gold camps. Remnants of many old diggings are still evident.

CHIEF JOSEPH BATTLEGROUND OF THE BEAR'S PAW STATE MONUMENT

South of Chinook, Chief Joseph Battleground of the Bear's Paw State Monument is the site of the last great Indian battle of the western frontier. On this rolling prairie with the Bear Paw Mountains in the background, Chief Joseph of the Nez Perce tired and disheartened, spoke his colorful words of surrender, "From where the sun now stands, I will fight no more forever."

CHIEF PLENTY COUPS STATE MONUMENT

This monument, now on the National Registrar of Historical Sites, is a memorial to the friendship between early settlers and the Crow Indians. Chief Plenty Coups, chief of the Crow Nation, was quick to adapt to the ways of the white man. During his younger days he was quite a warrior, and authoritatively wore 80 feathers on his coup stick. Coups were counted by touching the stick to a living warrior before he was dispatched.

The chief was born in the Crazy Mountains near the junction of the Musselshell and Missouri Rivers. He led scouts under General Crook and represented the American Indians at the burial of the unknown soldier at Arlington.

CLARK CANYON RESERVOIR RECREATIONAL AREA

Five developed campgrounds supply this area on the broad shoreline of Clark Canyon Reservoir at the confluence of Red Rock and Horse Prairie Creeks. The reservoir and the numerous streams around the area are famous for their trout fishing.

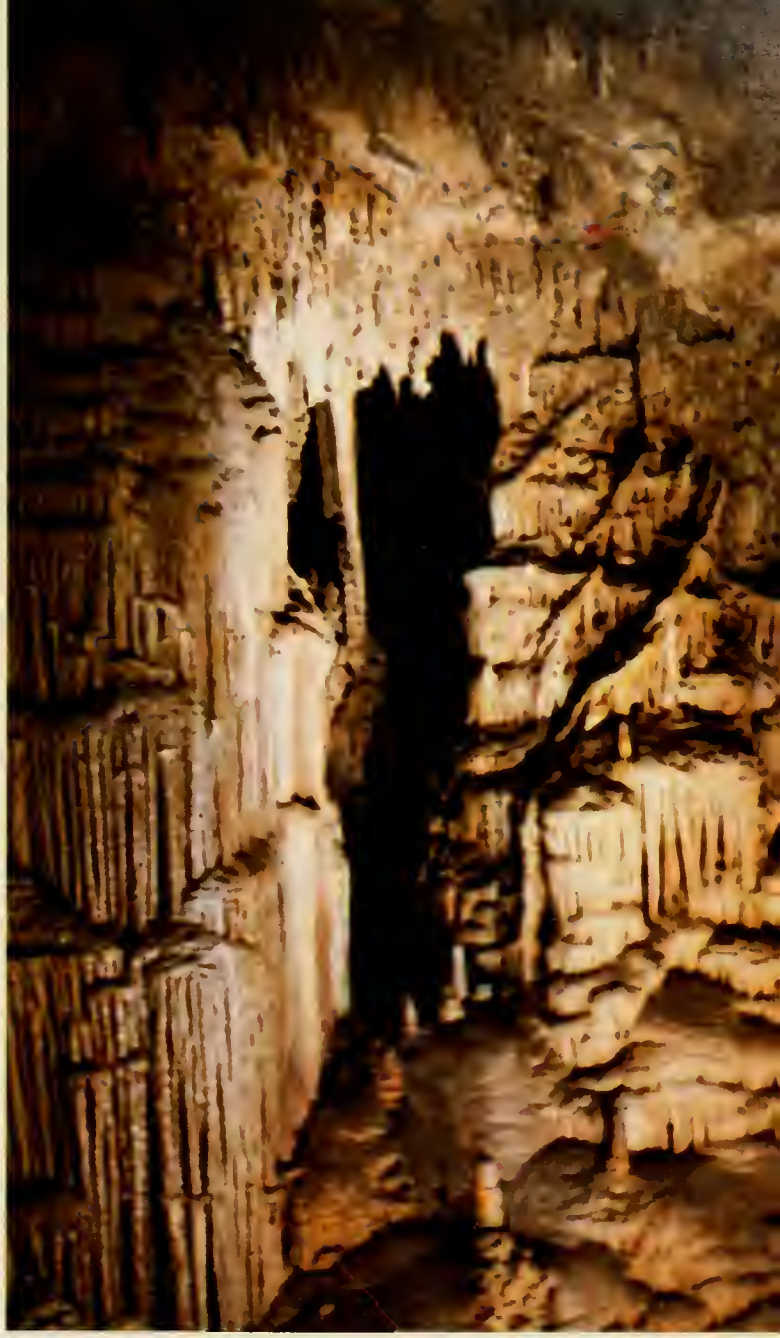
It was here that Lewis and Clark on their way west and sorely in need of food and horses, met the Shoshone Indians and their future guide, Sacajawea.

On the nearby fertile flood plains of Horse Prairie Creek, Miners and travellers from Bannack and Virginia City recognized the quality of the country and established some of Montana's first ranches.

Numerous access routes lead to developed areas located on the north, south and east shores of the reservoir.

COONEY RESERVOIR RECREATION AREA

Located on Cooney Reservoir, this offers a very popular boating area to people living in the Billings area. This recent acquisition of the Fish and Game Department is still under development.



FISH AND GAME PHOTO BY LEE HUYSER

Lewis and Clark Caverns, the Pacific Northwest's largest limestone cave, highlights Montana's State Park System. Over 80,000 visitors take guided tours through this underground wonderland each year.

DEADMAN'S BASIN RECREATION AREA

This park unit rests in an open prairie setting on the south shore of Deadman's Basin Reservoir. Boat-launching facilities assist in the pursuit of the fine fishing found in the reservoir.

ENNIS RECREATION AREA

Located just across the Madison River from the town of Ennis, Ennis Recreation Area lies in the heart of good trout country, and within easy driving distance of Virginia City and other old mining towns.

The park location is a bushy river front with open meadows and some large cottonwood trees. River channels web the area in many places.

FLATHEAD LAKE RECREATION COMPLEX

Fabulous Flathead Lake, 197 square miles of fresh sparkling water, is an outdoor recreationist's paradise. Amid unexcelled scenery, the water enthusiast may enjoy boating, water skiing and swimming. Fishing is good for trout, kokanee salmon and a variety of other sport fishes.

Public access to the lake as well as camping and picnic sites are provided by several recreational and park units located on both the west and east shores of the lake. These include: West Shore State Park, Finley Point, Elmo, Walstad Memorial, Wayfarer, Woods Bay, Yellow Bay and Big Arm Recreation areas.

FORT MAGINNIS STATE MONUMENT

This early day army post located northeast of Lewistown, leaves only building foundations and a lonely cemetery as reminders of the Indians wars of the late 1800's. Situated on a low, rocky bench backed by the Judith Mountains, Fort Maginnis once was a busy collection of barracks, service buildings and civilian-run stores. Visitor facilities are presently under construction at this site.

FORT OWEN STATE MONUMENT

Fort Owen State Monument was a trading post built by Major John Owen when he arrived in the Bitterroot Valley in 1850. Most of the trade was with westbound emigrants. The fort was constantly menaced by Blackfeet Indians. Discovery of gold in the surrounding areas in the late 1850's funneled people through the Bitterroot Valley and the fort flourished. Hellgate (now Missoula) began to replace Fort Owen as a center of trade and commerce about 1865.

HELL CREEK RECREATION AREA

Hell Creek Recreation Area rests on an open grassy slope in a colorful badlands setting on the south shore of Fort Peck Reservoir. The access route passes through one of the world's richest fossil areas.

HOOPER'S RECREATION AREA

Hooper Memorial Recreation Area lies in a lovely ponderosa pine forest west of the Rogers Pass crossing of the Continental Divide. The park was named after Joe Hooper, a pioneer of the Lincoln country.

JAMES KIPP RECREATION AREA

This site lies on the bank of the Missouri River in a typical floodplain area dominated by large cottonwoods.

James Kipp, a member of the Hudson Bay Fur Company, first entered Montana in 1823 in search of fur trade.

FISH AND GAME PHOTO BY TOM WARREN

He built a trading post on the Missouri River but hostile Indians forced its abandonment. Kipp later became instrumental in the construction of many forts and trading posts and in opening trade with the very hostile Blackfeet Indians.

LAKE MARY RONAN RECREATION AREA

Lake Mary Ronan State Park is a scenic, beautifully forested area with frontage on Lake Mary Ronan. Visitor facilities are presently being expanded.

LEWIS AND CLARK CAVERNS STATE PARK

Lewis and Clark Caverns, the Pacific Northwest's largest limestone cave, adds a rare bit of underground beauty to Montana. Through the ages, nature has carved, washed and deposited limestone to form multi-colored grottos with many strange and fascinating formations.

Guided tours are conducted May 1 through September 30. Fees for the tours are $1.00 for adults and 50 cents for children six through 12 years of age. A tour requires from 1½ to 2 hours. A modified railway and tramlift transport visitors to the caverns' entrance. The naturally air-conditioned caverns maintain a constant temperature of 49 , so warm clothing is usually the order of the day.

LOGAN PARK RECREATION AREA

Logan Park Recreation Area rests on the shores of beautiful Middle Thompson Lake. Vacationers will enjoy the scenic setting with its magnificent large conifers.

LOST CREEK STATE PARK

Lost Creek State Park is a delightfully scenic area featuring Lost Creek Falls which flows through a 1,500 foot deep canyon capped with limestone pinnacles, and cascades 50 to 60 feet over sheer rock. An attractive campground is further enhanced by the area's interesting geology and plentiful vegetation.

LONE PINE STATE PARK

Lone Pine State Park provides an unusually scenic picnic spot with a panoramic view of the entire Flathead Valley. Mountain ranges to the north and the peaks of Glacier Park complete the beautiful picture.

The Missouri River-Wolf Creek Canyon Recreation Road is one of the most recent additions to Montana's State Park System. The recreation road parallels 36 miles of Interstate 15 between Helena and Great Falls.

MADISON BUFFALO JUMP STATE MONUMENT

This site represents a hunting technique used by prehistoric man in Montana as long as 2,000 years ago. The technique called for either leading or stampeding buffalo over a cliff.

A shelter with interpretive pedestals provides a vantage point to view the entire jump complex, including an old Indian village site.

MAKOSHIKA STATE PARK

Makoshika includes a colorful badlands area south of Glendive. Centuries of wind and water have eroded shale and sandstone cliffs into strange formations. The word "Makoshika" is Sioux for "hell cooled over."

MEDICINE ROCKS STATE PARK

Indians once held ritualistic dances here among the strange rock formations; spirals, columns, archways, and caves formed by centuries of restless rains and winds.

MISSOURI RIVER HEADWATERS STATE MONUMENT

Location of this monument is near the junction of the Jefferson, Madison and Gallatin rivers. This is where the mighty Missouri River is formed and begins its long journey over many dams, into the Mississippi and eventually to the Gulf of Mexico.

Discovered by the Lewis and Clark expedition in 1805, this site has always been historically famous. Recently, it has been honored as a national registered historical landmark.

NELSON RESERVOIR RECREATION AREA

This site consists of an open grassy area sloping to the shores of Nelson Reservoir. The impoundment is typical for this part of Montana. Improved facilities include tree plants.

PAINTED ROCKS RESERVOIR RECREATION AREA

The name, Painted Rocks, originated from the multi-hued rocks which tower above the shores of the scenic lake. The campground rests on a forested shoreline encompassed in a beautiful mountain setting.

ROCK CREEK RECREATION AREA

Rock Creek Recreation Area is an interesting badlands area on the Big Dry Arm of majestic Fort Peck Reservoir. The gently rolling treeless campground contains facilities developed for water-based recreation.

ROSEBUD RECREATION AREA

This park unit consists of two plots along the shore of the ever-winding Yellowstone River. Both areas are shaded by stately cottonwoods and provide access to the river. One picnic area provides playground equipment and a boat-launching ramp. Camping facilities are presently under development on the larger plot.

THOMPSON FALLS RECREATION AREA

Situated on the upper reaches of Noxon Reservoir, this level, timbered site lies in an attractive mountainous setting. Boating facilities are located three miles down the shoreline from the park.

TIBER RESERVOIR RECREATION AREA

This large recreation area contains five developed sites on the reservoir and one on the tailwaters below the dam. The terrain is representative of much of the eastern Montana prairie with river breaks adjacent to flat grazing and agricultural land. Good fishing can be found in the reservoir and the Maria's River below the dam.

WHITEFISH LAKE RECREATION AREA

This is an aspen-shaded site on the scenic lakeshore of beautiful Whitefish Lake. Big Mountain and other peaks of the Whitefish Range are visible from the campground.

MISSOURI RIVER—WOLF CREEK CANYON RECREATION ROAD

Access to the northern end of the road is near Craig, and to the southern end near Wolf Creek. The road provides access to nearly forty miles of top quality stream and river fishing in a very pleasant, scenic setting.

The southern portion includes a length of Prickly Pear Creek, nestled within a narrow, multi-colored canyon. Cottonwoods, willows, chokecherry and aspen shade the streamsides while canyon sides and hilltops support pondersa pine and fir.

Prickly Pear drains into the mighty Missouri River which wanders through narrow agricultural lands and provides outstanding fishing, leisurely float trips, and scenic, restful stop areas.

Discussion of Montana's state park system can't end without some mention of the state's newest recreational development, a recreation road. Between Great Falls and Helena, the road extends 36 miles and offers fishing, boating, sightseeing and picnicking to travelers seeking refuge from high-tension interstate driving.

RECREATIONAL WATERWAYS

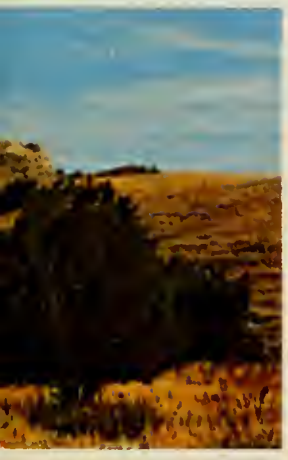
Many miles of beautiful rivers, some white and raging, others wide and lazy, await the boater in Montana. A number of the better waters have been declared as members of State Recreational Waterway System. High quality fishing is featured in nearly all of the recreational waterway streams. These streams are: The Flathead River and its three forks above Flathead Lake, the Missouri River from Fort Benton to the head of the Fort Peck Reservoir, the Yellowstone River from Yellowstone Park to Billings, Rock Creek near Missoula and the Smith River which joins the Missouri near Ulm, Montana. Several recreation areas on the Missouri River Waterway are available by boat only. ■

FISH AND GAME PHOTO BY DICK ELLIS

FISH AND GAME PHOTO BY DICK ELLIS

Scenic white rock cliffs (above) line nearly 50 miles of the Missouri River Recreational Waterway. Bannack (upper right) and the Madison Buffalo Jump (right) add a historical tinge. Unusual rock formations found at Medicine Rocks State Park (far right) make it one of Montana's most popular camping and picnic areas.

FISH AND GAME PHOTO BY DICK ELLIS



No.	SITE	LOCATION	PICNIC TABLES	STOVE or FIREPLACE	TOILETS	BOAT RAMP	CAMPING CHARGE*	CAMPING ALLOWED	ACREAGE	MAJOR ACTIVITIES
1	Ashley Lake Recreation Area	15 miles west of Kalispell and then 13 miles north of U.S. Highway 2.	X	X	X	X		X	32	C,P,S,F,B
2	Bannack State Monument	21 miles west of State Highway 278	X	X	X			X	51	P,C,
3	Beavertail Hill Recreation Area	27 miles east of Missoula adjacent to U.S. Interstate 90							65	P,C,F
4	Canyon Ferry Recreation Area	20 miles southeast of Helena just off U.S. Highway 12.	X	X	X	X	X	X	2,787	P,C,S,B,F
5	Chief Joseph Battleground of the Bear's Paw State Monument	16 miles south of Chinook off U.S. Highway 2	X	X	X				160	P
6	Chief Plenty Coups State Monument	35 miles south of Billings near Pryor	X	X	X				190	P
7	Clark Canyon Reservoir Recreation Area	20 miles south of Dillon off Interstate 15	X	X	X	X	X	X	1,200	P,C,F,S,B
8	Cooney Reservoir Recreation Area	8 miles west of Boyd						X	1,000	P,C,F,S,B
9	Deadman's Basin Recreation Area	20 miles east of Harlowton off U.S. Highway 12	X	X	X	X	X	X	498	P,C,F,B,S
10	Ennis Recreation Area	Just across the Madison River from Ennis on U.S. Highway 287	X	X	X		X	X	77	P,C,F
11	Flathead Lake Recreation Complex	Between Kalispell and Missoula on U.S. Highways 93 and 35	X	X	X	X	Some Sites	X		C,P,F,B,S
12	Fort MaGinnis State Monument	12 miles southwest of Roy off U.S. Highway 191							50	
13	Fort Owen State Monument	Near Stevensville off U.S. Highway 93							One	
14	Hell Creek Recreation Area	26 miles on gravel road north of Jordon and State Highway 200	X	X	X	X		X	113	C,P,F,S,B
15	Hooper Recreation Area	Adjacent to the town of Lincoln on State Highway 200	X	X	X		X	X	17	P,C,
16	James Kipp Recreation Area	65 miles north of Lewistown on U.S. Highway 191	X	X	X	X	X	X	465	P,C,F,B
17	Lake Mary Ronan Recreation Area	8 miles west of Dayton off U.S. Highway 93	X	X	X	X		X	76	P,C,F,S,B
18	Lewis & Clark Caverns State Park	47 miles east of Butte on U.S. Highway 10	X	X	X		X	X	2,770	P,C,
19	Logan Park Recreation Area	45 miles west of Kalispell on U.S. Highway 2	X	X	X	X	X	X	16	P,S,C,F,B
20	Lost Creek State Park	6 miles north of Anaconda on U.S. Highway 10-A	X	X	X			X	15	P,C,
21	Lone Pine State Park	3 miles southwest of Kalispell off U.S. Highway 2	X	X	X				162	P
22	Madison Buffalo Jump State Monument	7 miles south of Logan off U.S. Interstate 90	X	X	X				162	P
23	Makoshika State Park	3 miles south of Glendive off U.S. Interstate 94	X	X	X			X	748	P,C,
24	Medicine Rocks State Park	11 miles north of Ekalaka on State Highway 7	X	X	X			X	320	P,C,
25	Missouri River Headwaters State Monument	3 miles east of Three Forks and 3 miles north of U.S. Highway 90 at Trident Junction	X	X	X	X	X	X	9	P,C,F,B
26	Nelson Reservoir Recreation Area	18 miles northeast of Malta off U.S. Highway 2	X	X	X	X		X	200	P,C,S,F,B
27	Painted Rocks Recreation Area	40 miles south of Hamilton off U.S. Highway 93	X	X	X	X		X	100	P,C,S,F,B
28	Rosebud Recreation Area	At the town of Forsyth off U.S. Interstate 94	X		X	X		X	10	P,C,F,B
29	Rock Creek Recreation Area	35 miles south of Fort Peck on east shore of Fort Peck Reservoir, 7 miles off State Highway 24	X	X	X	X		X	200	P,C,S,F,B
30	Tiber Reservoir Recreation Area	18 miles southwest of Chester off U.S. Highway 2	X	X	X	X	X	X	6,917	P,C,F,B
31	Whitefish Lake Recreation Area	3 miles north of Whitefish off U.S. Highway 93	X	X	X	X	X	X	25	P,C,F,S,B
32	Thompson Falls Recreation Area	2 miles west of Thompson Falls on U.S. Highway 200	X	X	X	X	X	X	25	P,C,F
33	Missouri River-Wolf Creek Canyon Recreation Road	36 miles along U.S. Interstate 15 between Great Falls & Helena	X	X	X	X				P,F,B
	Recreation Waterway System	Throughout the state	X	X	X			X		P,C,F,B

LEGEND
X - Denotes presence of facility
S - Swimming
B - Boating
F - Fishing
C - Camping
P - Picnicking
* - Overnight camping fee is $1.00 per vehicle.
GLACIER NATIONAL PARK
Flathead R. Recreation Waterway
Flathead Lake
Fort Peck Reservoir
Missouri R. Recreation Waterway
Yellowstone R. Recreation Waterway
Smith R. Recreation Waterway
Canyon Ferry Reservoir
Rock Cr. Recreation Waterway
YELLOWSTONE NATIONAL PARK
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THE BITTERROOT

Montana's State Flower

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